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We claim:

- 1. A method for the effective delivery of a viral vector gene therapy pharmaceutical to a mammalian organ comprising contacting the mammalian organ tissue with the viral vector gene therapy pharmaceutical in a re-circulating, oxygenated perfusate solution, and holding said solution at about 37°C to provide effective delivery of the viral vector gene therapy pharmaceutical to the organ.
- 2. The method of claim 1, wherein the organ is in vivo and in situ.
- 3. The method of claim 1, wherein the organ is ex vivo.
- 4. The method of claim 1, wherein the organ is in vitro.
- 5. The method of claim 1, wherein the mammalian organ is a kidney, liver, mammary glands, spleen, or lung.
- 6. The method of claim 1, further comprising providing a viral vector gene therapy pharmaceutical having a promoter and an expression gene.
- 7. A method for the extended delivery of a gene therapy pharmaceutical to mammalian lung tissue comprising contacting the mammalian lung tissue with the gene therapy pharmaceutical in a re-circulating, oxygenated perfusate solution, and holding the perfusate solution at about 37°C to provide effective delivery of the gene therapy pharmaceutical to the lung tissue.
- 8. The method of claim 7, wherein the mammalian lung tissue is in vivo and in situ.
- 9. The method of claim 7, wherein the mammalian lung tissue is ex vivo.
- 10. The method of claim 7, wherein the mammalian lung tissue is in vitro.

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- 11. The method of claim 7, further comprising providing a viral vector gene therapy pharmaceutical having a promoter and an expression gene.
- 12. A method for gene therapy of lung disorders comprising contacting a lung of a patient with a lung disorder with an effective amount of a gene therapy pharmaceutical in a re-circulating, oxygenated perfusate solution, holding the perfusate solution at about 37°C, and delivering the gene therapy pharmaceutical for an amount of time that provides effective delivery of the gene therapy pharmaceutical.
- 13. The method of claim 12, wherein the lung disorder is selected from the group consisting of cystic fibrosis, $\alpha 1$ -antitrypsin deficiency, surfactant protein B deficiency, pulmonary hypertension, pulmonary thrombosis disorders, vasculitis, primary lung tumors, metastatic lung tumors, brochiolitis obliterans, reperfusion injury, lung graft rejection, and combinations thereof.
- 14. The method of claim 12, further comprising providing a viral vector gene therapy pharmaceutical having a promoter and an expression gene.
- 15. The method of claim 12, wherein the target is in vivo and in situ.
- 16. The method of claim 12, wherein the target is ex vivo.